



Global LNG investment and trade patterns

An infrastructure company's perspective

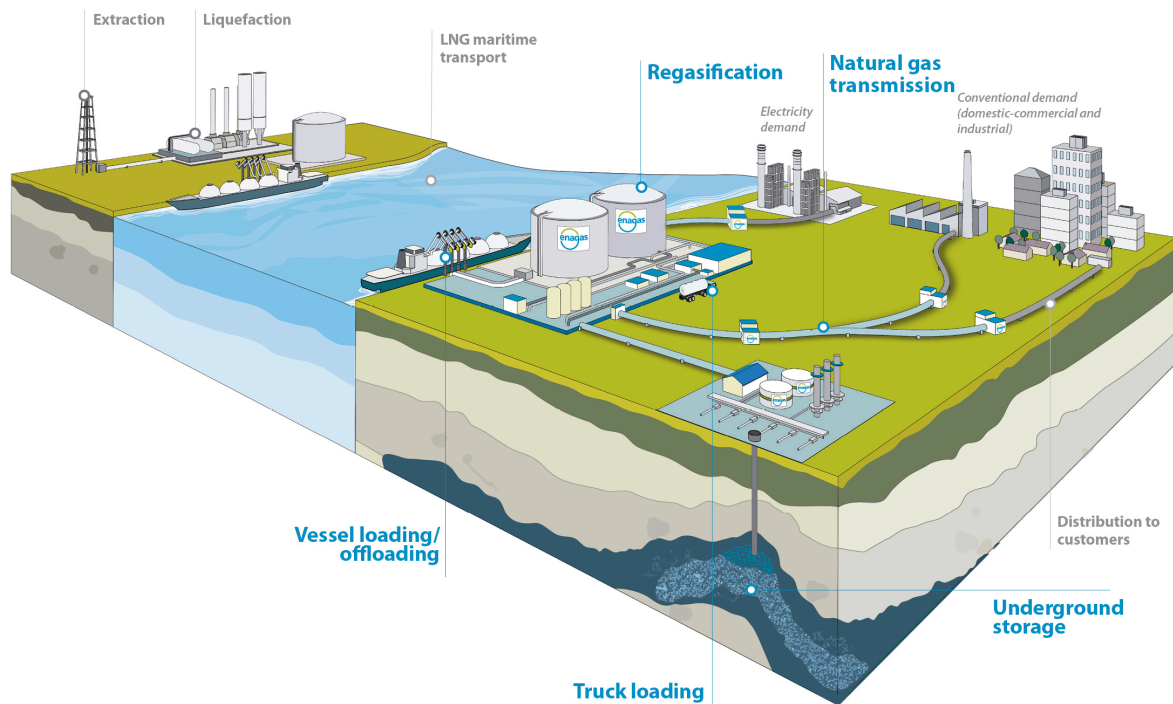
IEF – Industry Advisory Committee
December 9, 2015

ENAGAS – 45 YEARS OF EXPERIENCE

A Midstream Company

Natural Gas Infrastructure Leader

Our technological skills, expertise, leadership and experience in managing gas infrastructure development, operations and maintenance, combined with our sound financial structure, position us as a leading international player.



European Union-Accredited
Independent TSO

Top Natural Gas Transmission Company
in Spain

Technical Manager
of Spain's Gas System

ENAGAS – OUR CURRENT MARKETS

Mexico

TLA Altamira LNG Terminal
Soto La Marina Compressor Station
Morelos Gas Pipeline

Peru

Transportadora de Gas del Perú (TgP)
Compañía Operadora de Gas del Amazonas (Coga)
South Peru Gas Pipeline

Chile

GNL Quintero LNG Terminal

Sweden

Swedegas

Greece, Albania and Italy

Trans Adriatic Pipeline (TAP)

What we do



Storage



LNG



Transmission



ENAGAS – OUR LNG ACTIVITIES

8 LNG terminals
(+ 2 more in development)

**Global leader in number of LNG
receiving terminals**

We have constructed **13 LNG Storage
Tanks** over the past ? years

or
Over the years we have/Enagas has
constructed **13 LNG Storage Tanks**



LNG MARKET

Currently gloomy but growing and becoming more relevant

(Industry adaption required)

Currently gloomy...

- **Low prices**, driven by **demand deceleration** and **oil price collapse** (especially in Asia), challenging LNG supply economics
- **New wave of LNG supply under construction** (US; AUS) increasing price pressure under **uncertain demand growth**, especially in Asia
- **Europe**, as the **last resort LNG market...but challenges remain: Weak demand; Russia export strategy**
- **New glut of planned LNG capacity** looking for demand **beyond 2020**

but growing and becoming more relevant...

- **LNG supply has grown faster than any other source of gas** – at an average 7% per year since 2000, achieving a **33% share of global gas trading**
- **Supply abundance and diversity** should help to enhance a **true global market**, increasing “connectivity” and liquidity, while arising as a growing relevant **tool for security** of supply

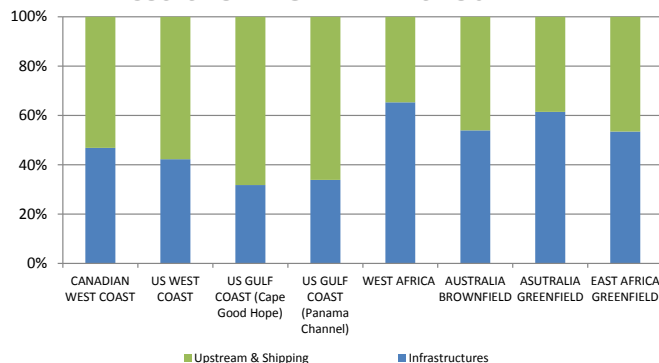
if the industry adapts

- **Need for creating demand**, beyond big markets such as Europe or China: new importing countries and new sectors (i.e.: bunkering)
- **Need for adapting infrastructures and business models to a low-cost highly-flexible environment**

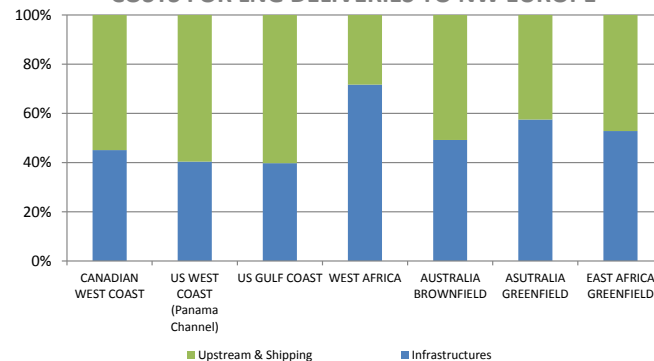
Although the short-term paints a gloomy picture of an oversupplied market, the LNG market will gain relevance in the long-term if industry players play are active in creating demand while adapting to a low-cost highly-flexible environment

INCREASING RELEVANCE OF INFRASTRUCTURE COSTS

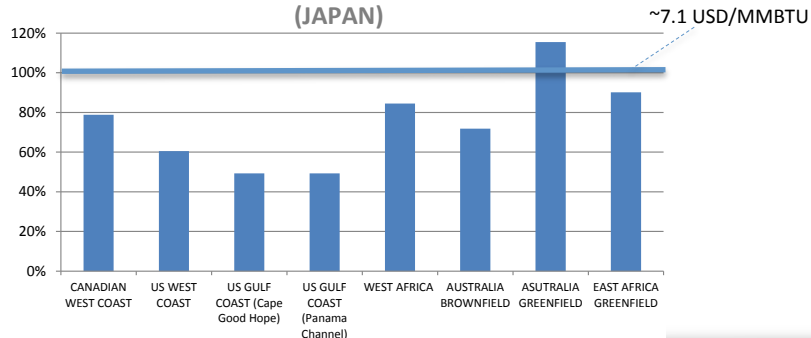
COSTS FOR LNG DELIVERIES TO JAPAN



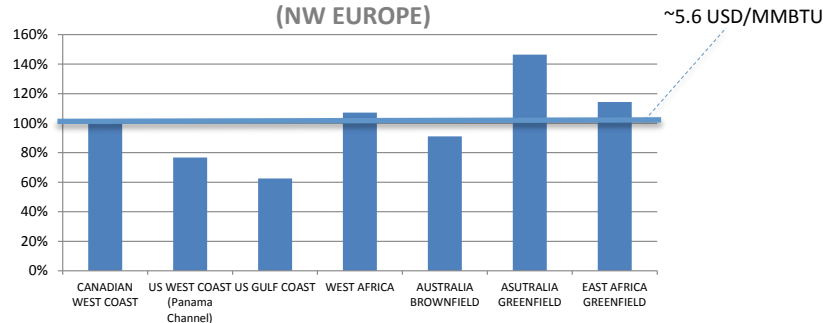
COSTS FOR LNG DELIVERIES TO NW EUROPE



INFRASTRUCTURE COSTS VS CURRENT MARKET PRICES (JAPAN)



INFRASTRUCTURE COSTS VS CURRENT MARKET PRICES (NW EUROPE)



Infrastructure cost reduction strategies are key factors for gaining competitive advantages in the market place and a break even element under the current context of prices

GLUT LIQUEFACTION CAPACITY LOOKING FOR NEW DEMAND

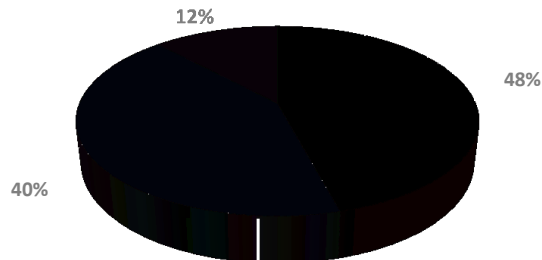
Supply abundance and slowing uncertain demand pose new challenges for liquefaction plants

CAPACITY UNDER CONSTRUCTION

132 Mtpa

(sources: IGU, BG)

■ ASIA-PACIFIC ■ USA ■ RUSSIA



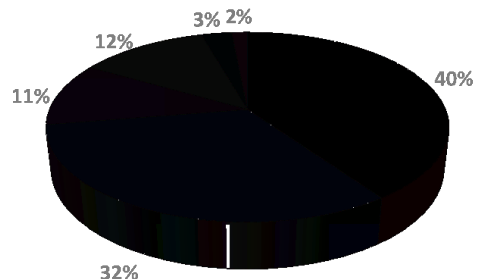
+45% of existing capacity by end-2015

PLANNED CAPACITY

855 Mtpa

(sources: IGU, BG)

■ CANADA ■ USA ■ ASIA-PACIFIC ■ AFRICA ■ RUSSIA ■ EUROPE



+X12 actual needs in 2025

CHALLENGES

Huge competitive pressure for planned/proposed plants

Buyer's market, high spot/short term liquidity: **lower need for long-term off-take contracts**

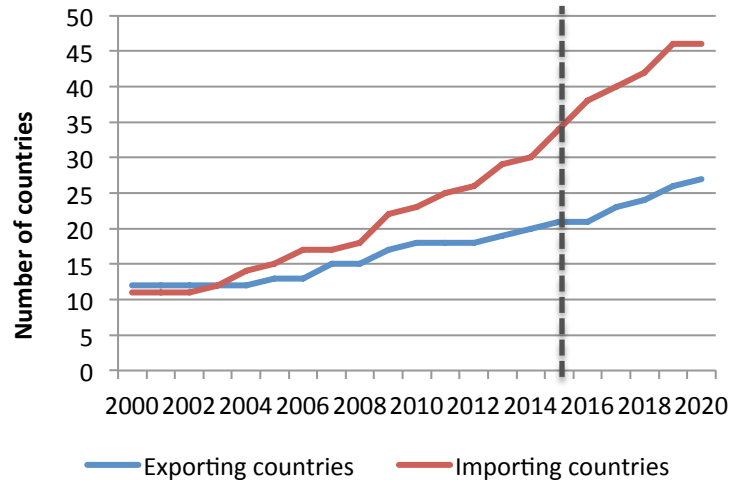
The new market context requires a transformation of liquefaction plant business models geared towards low-cost highly-flexible models, deeper pockets and higher engagement in demand creation.

RELEVANT UNTAPPED DEMAND IN NEW IMPORTING COUNTRIES

Growing prospects, but high market risks

GROWTH OF EXPORTING AND IMPORTING COUNTRIES

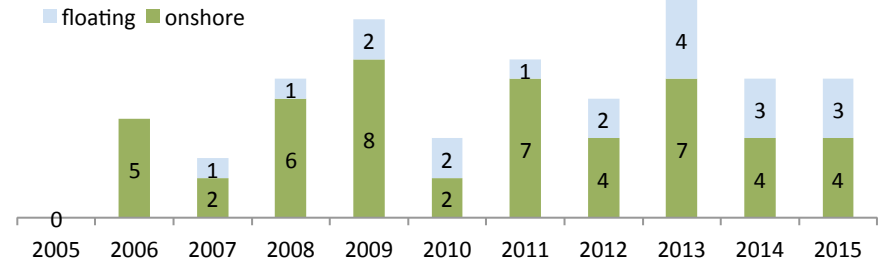
(Source: IGU, BG)



Need for adaptation: The emerging role of FSRU

NEW LNG TERMINALS IN THE LAST DECADE

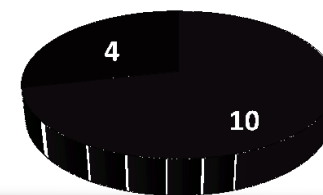
(Source: IGU)



PLANNED TERMINALS IN NEW IMPORTING COUNTRIES

(Source: IGU, BG)

FSRU Onshore



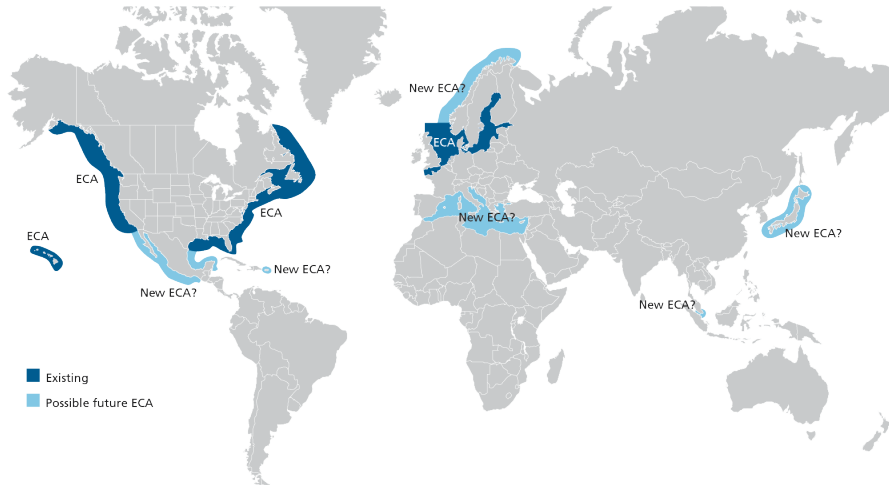
New business models/infrastructures needed to adapt to higher risk environments – FSRUs (+ active involvement in downstream activities) to play a relevant role enabling demand creation in the short-term

OPENING NEW CONSUMING SECTORS

Bunkering: the low-hanging fruit

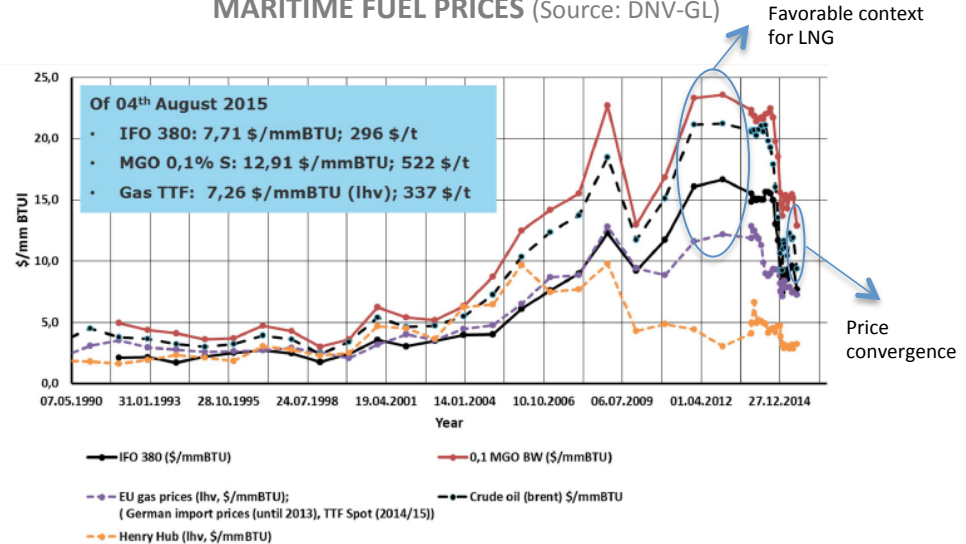
The environmental driver...

EMISSION CONTROL AREAS – ECA (Source: IMO)



The price (+ other) challenge (s) ...

MARITIME FUEL PRICES (Source: DNV-GL)

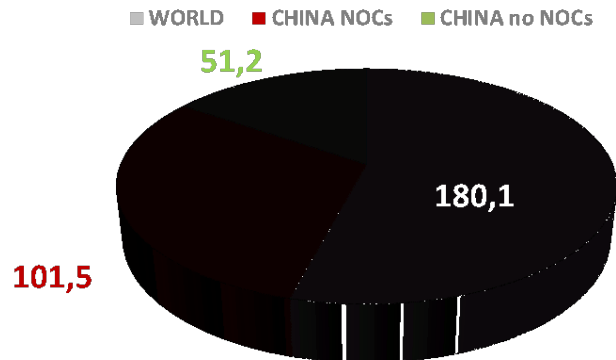


Bunkering is a low-hanging fruit, useful in helping the creation of new sectors demanding LNG over the long-term, but current prices and chicken-and-egg challenges require strengthened regulations and cooperation along the value chain

THE EMERGING ROLE OF NON-NOC PLAYERS IN CHINA

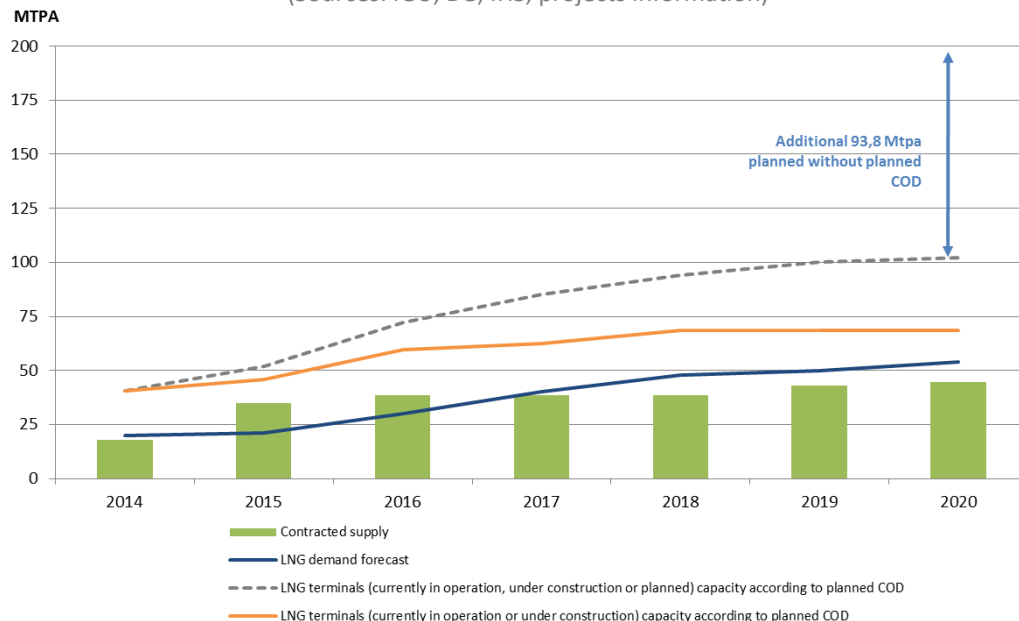
New BIG guys in the market...

**REGASIFICATION CAPACITY (MTPA)
UNDER CONSTRUCTION AND PLANNED**
(Sources: IGU, BG, IHS, projects information)



but market challenges lie ahead

LNG DEMAND PROSPECTS, REGAS CAPACITY AND CONTRACTED SUPPLY
(Sources: IGU, BG, IHS, projects information)



Emerging non-NOC players could play a relevant role in fostering demand growth but need to partner with international players – LNG terminal developers are needed to ensure adequate development/operation of selected assets

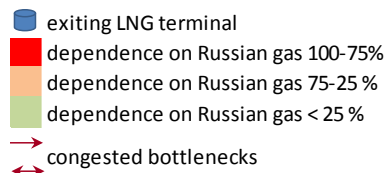
EUROPE

Balancing the global market while diversifying supply

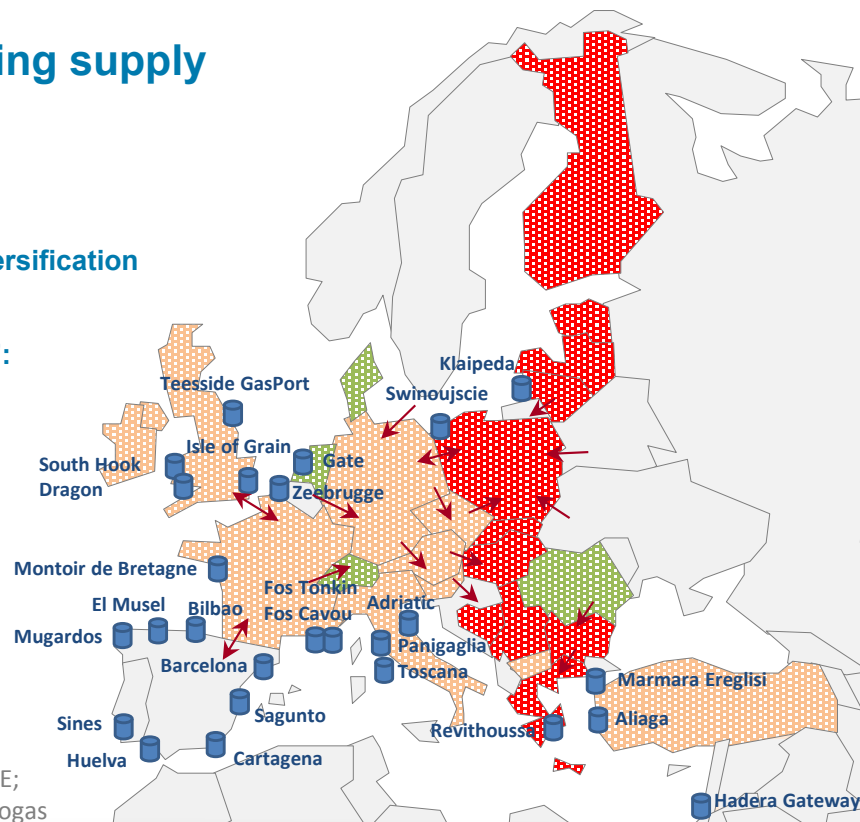
High spare LNG import capacity...

but there is a need for additional targeted infrastructures:
most of this spare capacity does not provide relevant supply diversification

However, most of these new infrastructures are 'sub-commercial':
weak demand; Russian gas competitiveness



Source: Own elaboration using data from: GLE;
ACER; Gazprom; Energy Community; BP : Eurogas



New infrastructures in Europe are needed to enhance the diversification of supply, but with a new approach to overcome commercial drawbacks: enhance more integration along the value chain; targeted EU support.

CONCLUSIONS

Currently challenging market environment...

- The combination of demand weakness and supply growth positions **LNG prices to likely remain low in the near future**
- The **current oversupply** in the LNG market was not the consequence of a conscious strategy decision and may result in a **major value loss for some investors**
- Consequently, at current prices **new projects will struggle to get off the ground**

but growing and becoming crucial for the future of gas

- There is an **opportunity** for the global industry **to develop more efficient, transparent and competitive LNG markets**, which would indeed be the **best way to support future growth for gas consumption**.
 - The **rise of more diversified pricing/contractual structures** is positive and **points to increased flexibility and maturity**
 - **Gas trading conditions in Asia are steadily improving** both in terms of **liquidity** and price **transparency**. **More mature spot markets** can provide the **robust platform for the development of future markets**
 - In the meantime, **the value chain will have to quickly adapt** to this new environment **to actively contribute to demand creation** and **succeed amidst fierce competition**
 - **Infrastructure cost reduction arises as a key competitive advantage** due to its growing weight in the total cost
 - **Governments** will have to make an increased effort in the **coming years** in order to **support the development and reinforcement of both their physical and regulatory gas infrastructures**



Thank you for your attention!

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